

## DoD Space Planning Criteria for Health Facilities

### Central Sterile

#### **4.5.1. PURPOSE AND SCOPE:**

##### **Central Sterile (CS):**

This document sets forth the space planning criteria for the decontamination, sterilization, processing and packaging of instruments and reusable supplies required for patient care in a DoD health care facilities. This activity often packages health care items into “packs and trays” which may include reusable items, new items or both. The title and scope of functions accomplished in this area may vary between the Services and between facilities. In this document, this function is referred to as Central Sterile (CS).

##### **Concepts of Operation:**

It is important that the programmer understand the projected concept of operation for the Central Sterile (CS) of the health facility that is being programmed. In some medical treatment facilities (typically freestanding clinics) this service may not occur and those items in need of decontamination may be sent to a hospital and re-supplied in like kind. In some smaller medical clinic facilities, the sterilization service of a Dental Clinic (for example, Dental Instrument Processing Centers in the Air Force) may be used to meet the CS needs. Additionally it is typical that some decontamination capability will exist in the operating room suites, especially for “flash” sterilization of instruments.

In general the following is true:

- All sterilization of supplies and instruments will be completed by the CS. Sterile supplies will be distributed to using areas by dedicated delivery systems or by Medical Materiel personnel.
- All disposable items that do not require processing and sterilizing will be stored and distributed to the using area by Medical Materiel.
- Equipment requiring CS handling will be cleaned, decontaminated, and stored in the CS in a clean environment.
- The CS as defined in this document may be designed as part of a total material distribution system.

**Clean and dirty separation:** The separation of activities dealing with sterile and non-sterile items is important to the layout and use of the spaces described in this section. This separation may be thought of as a “sterile line” or “red line” that traverses the CS area. One side of this line is dirty and the other is clean. This line generally is defined by the activities on either side of the autoclaves. This is especially true if “pass-thru” autoclaves are used. The line becomes blurred at the point of autoclaves which are not “pass-thru.” Those activities (receiving, decontamination) that lead up to items being placed in the autoclave (sterilization) are on the dirty or contaminated side of the CS. Those activities which occur with items that are removed from the autoclave(s), should occur on the “sterile side” of the CS.

#### **4.5.2. DEFINITIONS:**

**Assembly Area** - Assembly generally occurs on the clean side and is space needed to put together sterile items (expendable and nonexpendable) for later delivery to the sections or services where they will be used. Note that the term assembly can be confusing as there are situations where non-sterile items are put together to be sterilized together.

**Cart Queuing Area** - Area for queuing carts that are ready to be delivered to the using area.

**Conditioned Water Unit** – Some sterilizers require conditioned (softened) water in order to function properly. If facilities provide clean stem, a conditioned water unit may not be necessary.

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**Decontamination** - Freeing an object of some contaminating substance - cleaning and sterilizing.

**Decontamination Area** - Area for the cleaning of soiled, contaminated, and used items that have to be returned to the CS. These items are cleaned and then sterilized in the decontamination area.

**Equipment and Cart Holding Area** - A holding area for medical equipment and carts after they have been decontaminated and cleaned prior to storage or issue. The equipment will then be moved to materiel distribution for storage in a clean area. A portion of this area may also serve as a case cart holding area.

**Heat Sensitive Cleaning Area** - Area for the decontamination of heat sensitive items such as thermometers, lens equipment, etc. Heat sensitive sterilization can be accomplished via alternative low temperature sterilization. This area is a part of the sterilization area.

**Housekeeping** - The area where housekeeping items required in the CS are stored. Separate areas will be maintained in both the decontamination area and in the clean area.

**Instrument Storage and Assembly Area** - Storage area for non-sterile instruments that are to be used in sets and trays. Area includes space for assembling sets of instruments.

**Receiving, Decontaminating, and Cleaning Area** - An area where reusable instruments, supplies, equipment and carts are received, sorted, cleaned, and decontaminated. This area adjoins the sterilization area.

**Size of Central Sterile Service** – This criteria divides the central sterile services into three size options: large, medium and small. These sizes align with the size of the central sterile service needed to support health care service in a clinic or hospital supporting itself and in some cases satellite services (health and dental) on an installation. Generally, the small size is for a facility, which has no inpatient services, the medium size is for a community hospital and the large size is for a medical center or large community hospital with satellite services.

**Sterile Storage Area** - Area to hold sterile processed materiel that is awaiting delivery to using agencies.

**Sterilization Area** - Consists of space for steam sterilizers, alternative low temperature sterilization, along with loading and unloading space for each machine.

#### 4.5.3. **POLICIES:**

**When Service is Provided:** At a minimum, Central Sterile (CS) service will be programmed into any DoD medical treatment facility, which includes an operating room. Based on the concept of operation, a central sterile service may be provided in medical treatment facilities that do not have operating rooms, but require an “in facility” capability, for such items as a steam sterilizer and a Steris.

**Lockers, Lounges, Toilets, Showers** - Separate staff support area should be provided for those personnel working in clean areas and for those personnel in the Decontamination area. If there is a single support area, it should be centrally located with separate exits to the decontamination and clean areas.

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#### **4.5.4. PROGRAM DATA REQUIRED:**

Will the CS be provided with conditioned water (piped into the CS) that can be used in the sterilizers, or will the water provided to the CS need to be conditioned? Will the CS be provided with clean steam?

Is a CS needed in this facility, or can such service be provided from some other source (another medical treatment facility nearby or a dental clinic)?

Classify the facility being programmed into one of the following four categories:

- A. A health clinic which receives CS support from another MTF or Dental Clinic.
- B. A health clinic, which does not provide ambulatory surgery, is alone on an installation and which does not receive CS support from another source?
- C. A health clinic, which provides ambulatory surgery or a community hospital.
- D. A medical center.

**Note:** If the answer above is A., then no CS should be programmed. If the answer is B., then a small CS should be programmed. If the answer is C., then a medium CS should be programmed. If the answer above is D., then a large CS should be programmed.

A= no CS  
 B= small CS  
 C=medium CS  
 D=large CS

Exchange cart requirements:

How many operating rooms are in the facility being programmed?

How many carts, other than those dedicated to the ORs, are being serviced by the CS?

What is the projected number of cases per OR per day?

Is there an OB service?

Is there a Cardiac OR procedure room?

Is there a cardiac specialty OR?

Are there other than cardiac specialty ORs?

**Note:** Transportation systems (cart conveyors, pneumatic tubes, box conveyors and dumb waiters) may add to the space requirements in this area. If the planned medical treatment facility will include such systems, the programmer will need to add space for the "Send and/or Receive" points for such systems.

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#### 4.5.5. SPACE CRITERIA:

**Toilets, Lounges and Locker Areas:** The criteria for toilets, lounges and locker rooms is provided in a separate section, Section 6.

**Administrative Offices:** The office space required to provide administrative support to operate the clinic services will be provided in accordance with criteria for administration in Section 2.1.

FUNCTION	AUTHORIZED		PLANNING RANGE/COMMENTS
	m²	nsf	
Receiving, Decontaminating, and Cleaning Areas:			
Receiving Window	5.57	60	One per CS service.
Cart receiving	.93	10	Per cart times 5% of total carts. See formula in 4.5.6 for determining number of carts.
Double sinks with work counters	4.64	50	2 per CS service; 1 in heat sensitive area on the contaminated side of the low temperature sterilizer, one in the general decontamination/cleaning area.
Distilled Water unit	2.79	30	1 per CS service. This may not be necessary if the distilled water is provided to the CS from a central source (building plant).
Automatic cart washers	15.79	170	Per cart wash machine. One machine per hospital with more than 4 ORs.
Manual cart wash area	11.15	120	One per CS service. Provide only when automatic cart washers are not programmed.
Decontamination Equipment Area (includes washer pasteurizer, washer sterilizer, and sonic cleaner).	32.52	350	Per small CS service.
	46.45	500	Per medium CS service.
	69.68	750	Per large CS service.
Tables for Drying	1.86	20	Per small CS service.
	2.79	30	Per medium CS service.
	4.64	50	Per large CS service.
Assembly Areas:			
Instrument Storage	9.29	100	Per small CS service.
	13.94	150	Per medium CS service.
	27.87	300	Per large CS service.
Assembly Space (tables)	11.15	120	Per small CS service.
	18.58	200	Per medium CS service.
	37.16	400	Per large CS service.
Equipment Holding Area	13.94	150	Per small CS service.
	27.87	300	Per medium CS service.
	37.16	400	Per large CS service.
Bulk storage	13.94	150	Per small CS service.
	27.87	300	Per medium CS service.
	55.73	600	Per large CS service.

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FUNCTION	AUTHORIZED		PLANNING RANGE/COMMENTS
	m²	nsf	
Assembly Areas (Continued):			
Assembly area (includes table work areas, basket storage, basket return, mobile tables, pre- assembly space and pre-sterile holding space).	37.16	400	Per small CS Service.
	60.39	650	Per medium CS Service.
	83.61	900	Per large CS Service.
Sterilization Areas:			
Sterilization Equipment Area (area for sterile air tube drying and steam sterilizers)	23.22	250	Per small CS Service.
	46.44	500	Per medium CS Service.
	65.02	700	Per large CS Service.
Sterile Storage Areas (SSA):			
Sterile Storage Area	27.87	300	Per small CS Service.
	55.73	600	Per medium CS Service.
	92.89	1000	Per large CS Service.
Cart Queuing & Clean Cart Storage Areas:			
Clean Cart Storage	.93	10	NSF per cart. Space for 20% of carts. See formula in 4.5.6 for determining number of carts.
Cart queue	.93	10	NSF per cart. Space for 5% of carts. See formula in 4.5.6 for determining number of carts.
Staff and Support Areas:			If CS is collocated with Surgery, combine with Surgery, if feasible.
Chief of CS Service	11.15	120	One per CS Service.
Administrative area	9.29	100	Minimum of 60 nsf per programmed administrative FTE if greater than one.
NCOIC/LCPO/LPO Office	11.15	120	One per CS Service.
Lounge	9.29	100	Minimum, add 10 NSF per FTE staff over 10 per shift. 200 NSF maximum. If FTE staff is less than 4, do not provide a separate lounge, but collocate with Surgery lounge (see Section 4.4).
Locker room - Decon.			See Section 6.1. For personnel assigned in the Decon. Area. Combine with Clean locker room, if feasible.
Male	9.29	100	Minimum, add 10 NSF per male assigned over 10.
Female	9.29	100	minimum, add 10 NSF per female assigned over 10
Toilets: - Decon.			See Section 6.1.
Male (lav, ur, wc, sh)	11.15	120	Minimum. If more than 25 males assigned, add 1 ur, 1 wc, 1 lav, 1 sh @ 30 NSF. Minimum 2 wc.
Female (lav, wc, sh)	8.36	90	Minimum. If more than 25 females assigned, add 1 lav, wc, sh @ 30 NSF/fix. Minimum 2 wc

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	m <sup>2</sup>	nsf	
<b>Staff and Support Areas (Continued):</b>			
Locker Room – Clean:			See Section 6.1. For personnel assigned in the Clean Area. Combine with Decon. locker room, if feasible.
Male	9.29	100	Minimum, add 10 NSF per male assigned over 10.
Female	9.29	100	Minimum, add 10 NSF per female assigned over 10
Toilets - Clean:			See Section 6.1.
Male	11.15	120	Minimum. If more than 25 males assigned, add 1 ur, 1 wc, 1 lav, 1 sh @ 30 NSF. Minimum 2 wc.
Female (lav, wc, sh)	8.36	90	Minimum. If more than 25 females assigned, add 1 lav, wc, sh @ 30 NSF/fix. Minimum 2 wc
Janitor's Closet	5.57	60	One janitor's closet per 10,000 nsf. See Section 6.1.
<b>Central Sterile Service for Freestanding Clinics:</b>			
Clinic - Central Sterilization	16.72	180	For Clinics greater than 35,000 gsf, but less than 100,000 gsf. Justification required.
	22.30	240	For Clinics greater than 100,000 gsf, but less than 125,000 gsf. Justification required.
	27.87	300	For Clinics greater than 125,000 gsf. Justification required.

#### **4.5.6. FORMULA:**

Formula for calculating number of carts:

# of cases per O.R. per day X # of ORs = \_\_\_\_\_ carts

+ 2 carts if OB performed

+ 1cart if cardiac OR

+ 4 carts if there are specialty ORs, other than cardiac ORs

+ \_\_\_\_\_ number of carts (other than from OR Suite) that are serviced by CS

Calculate and sum all applicable above.